

XXIII. Hymenoptera aculeata collected in Algeria by the Rev. A. E. EATON, M.A., F.E.S., and the Rev. FRANCIS DAVID MORICE, M.A., F.E.S. Part II. Diptera. By EDWARD SAUNDERS, F.R.S., etc.

[Read November 15th, 1905.]

JUGURTHIA NUMIDA, Sauss.

- ♂. Biskra, in grounds of Château Landon, 8.10 a.m., 24, v, 93. (*A. E. E.*)  
 ♂. „ between Fort St. Germain and the brick kiln on *Ammi visnaga* in the afternoon, 19, v, 97. (*A. E. E.*)  
 ♀. „ between Fort St. Germain and the brick kiln on *Ammi visnaga*, in the afternoon, 18, vi, 97. (*A. E. E.*)  
 ♀. Médéa, Route d'Alger, north of town, on low plants, such as *Convolvulus arvensis*, *Malva sylvestris* and *Echium*, 26, vi, 93. (*A. E. E.*)  
 ♀. „ wood towards Kef-el-azeri, on *Daucus setifolius*, 2, viii, 93. (*A. E. E.*)

CELONITES FISCHERI, Spin.

- ♀. Koudia Sma, a hill east of Médéa, alt. abt. 3,180 ft., on *Microlonehus salmanticus*, 15, vii, 93. (*A. E. E.*)  
 ♀. Constantine, visiting *Echium italicum*, “rolls itself into a pill and shams death,” 21, v, 95. (*A. E. E.*)  
 ♂♀. Biskra, on *Echium humile*, 19, v, 97, and 18, vi, 97 (*A. E. E.*)

QUARTINIA MAJOR, Kohl.

- ♀ 4. Sidi Ferruch, about sixteen miles from Algiers westwards on the coast, on the glacis of the fort, resting on flowers of *Asteriscus maritimus*, 8, v, 93. (*A. E. E.*)

## QUARTINIA DILECTA, André.

- ♀ 1. Biskra, on *Picridium tingitanum*, 3, iv, 97. (*A. E. E.*)

## EUMENES SICHELII, Sauss.

- ♂ 1. Biskra, cornlands bordering the route des Zibans on  
*Ammi visnaga*, Lam., 25, v, 93. (*A. E. E.*)  
♂ 1. „ hollows between the railway near Kilomètre  
199, and the scrub bordering the pasture,  
6, v, 97. (*A. E. E.*)  
♀ 1. „ scrub bordering the pasture, on *Antirrhinum*  
*ramosissimum*, 13, v, 97. (*A. E. E.*)  
♀ 2. Tunis in the Cimetière de Sidi-ben-Hassen, 20, xii,  
93. (*A. E. E.*)

## EUMENES NIGRA, Brullé.

- ♀ 2. Road to Hamman-es-Salahin, opposite the new  
Beni Mora racecourse, visiting *Peganum harmala*,  
21, iv, 95. (*A. E. E.*)

## EUMENES COARCTATA, F.

Various localities and dates from April to November.  
(*A. E. E.* and *F. D. M.*)

EUMENES COARCTATA, F., var. *dubius*, Sauss.

- ♀ 1. Ravines, near Mount Ben Omar, north of Médéa,  
alt. 2,730–3,130 ft., on *Eryngium triquetrum*, 11,  
vii, 93. (*A. E. E.*)  
♀ 1. Bône, on *Mentha rotundifolia*, 10, viii, 97. (*A. E. E.*)

## EUMENES PICTETI, Sauss. var. (?)

- ♀ 1. Biskra, amongst *Tamarix*, 30, ix, 97. (*A. E. E.*)

## PSILOGLOSSA ALGERIENSIS, n. sp.

Nigra; rufo flavoque picta; pronotum antice truncatum angulis  
rectis; post-scutellum sub-lamelliforme lateribus elevatis, apice  
emarginato, lingua elongata ad coxas intermedias attingens, abdomen  
segmento primo cupuliformi, margine apicali subelevato.

♂. Black, mandibles, clypeus, scape of antennæ in front, and face  
from just above the sinus of the eyes, except two short black divergent  
lines originating at the insertion of the antennæ flavous, flagellum  
of antennæ beneath, a spot behind each eye, the pronotum except at

its posterior angles, the tegulae, a spot below the tubercles, the posterior angles of the scutellum, and the raised margin of the post-scutellum flavo-testaceous, abdomen with the 1st segment, except a basal triangular spot, testaceous, the other segments black with a trisinate testaceous apical band, legs with the apices of the femora, the tibiae and tarsi rufotestaceous. Head closely and coarsely punctured, mandibles tridentate, clypeus deeply and angularly emarginate, apical joint of the antennae small, slightly curved and subtruncate; thorax punctured very similarly to the head, prothorax truncate in front, its angles not produced and nearly rectangular; wings slightly dusky especially along the costal margin, nervures brown, clear testaceous towards the base of the wings; 2nd recurrent nervure received near the base of the third submarginal cell; post-scutellum flattened and produced horizontally over the propodeum, slightly emarginate posteriorly, its margins reflexed, a strong carina runs along the sides of the propodeum, below which the surface is bright and shining; abdomen strongly punctured. 1st segment cupuliform, its apical margin slightly raised.

♀. Very like the ♂ and similarly punctured, but with the base and under-side of the antennae, the mandibles, the head posteriorly, and a spot in the sinus of each eye rufotestaceous; on the face, its apex between the insertion of the antennae, is a triangular spot of a paler testaceous colour, clypeus only slightly sinuate at its apex, pronotum truncate with its angles more produced than in the ♂, and if anything slightly less than a right angle, flavotestaceous in front blending through a brownish colour into black posteriorly; wings as in the ♂. Sides of the propodeum rufotestaceous, abdomen with the basal segment rufotestaceous, its apex of a more flavous tint, its disc with a round blackish spot, the rest of the segments black, with a testaceous trisinate apical band, more or less margined with rufous, apex of terminal segments entirely testaceous; legs as in the ♂.

Long. 7-8 mm.

- ♂ 1. Biskra, on *Antirrhinum ramosissimum*, 21, iii, 97.  
(*A. E. E.*)  
♀ 2. „ 22, iv, 97. (*A. E. E.*)  
♀ 2. „ on *Atractylis serratuloides*, 10, v, 97.  
(*A. E. E.*)  
♀ 1. „ on *Deverra chlorantha*, 13, v, 97. (*A. E. E.*)

Apparently allied in colour to *P. pulchra*, Mor., but differing in the shape of the pronotal angles and that of the lamelliform post-scutellum.

## RAPHIDOGLOSSA RUFESCENS, n. sp.

Rufotestacea, nigro-variegata, clypeo, abdominisque segmento primo et secundo rufotestaceis primo fascia apicali nulla, ♀ clypei marginibus elevatis, nigris ;

Rufotestaceous, head and thorax largely and closely punctured, the former black with the clypeus, a large somewhat triangularly-shaped spot, its base situated just below the anterior ocellus and its apex just above the insertion of the antennæ, and a large spot behind each eye rufotestaceous, mandibles in the centre and antennæ at the base of the same colour, mandibles with four blunt teeth, clypeus in the ♂ bidentate, with a small, deep emargination between the teeth, ♀ with the free sides of the clypeus widely reflexed, shining and black, the apical margin which lies between them slightly emarginate, with two small prominent teeth near the centre. Thorax above, black only on the mesonotum (in one specimen entirely red), and the base of the scutellum and post-scutellum, beneath black with the exception of a red spot on the mesopleura. Pronotum truncate in front meeting the sides in angles slightly less than right angles, the sides slightly sinuate immediately behind the angles which are consequently somewhat produced, post-scutellum truncate posteriorly wings slightly smoky especially towards the costa, veins rufotestaceous, 2nd submarginal cell sub-triangular, very narrowly truncate at its upper margin ; propodeum black in the centre, red and clothed with silvery hairs at the sides ; abdomen dull, finely punctured and clothed with very short white pubescence, with the basal and 2nd segments entirely rufotestaceous, the former strongly punctured, with a large round impression near the apex, and in some examples with the latter more or less suffused with black, following segments black, their posterior margins more or less rufous, sometimes widely so, the colour band of a more or less bisinuate form ; legs entirely rufotestaceous except the anterior coxæ in front.

Long. 15-16 mm.

♂ 2. Biskra, near railway, kilomètre 199, "asleep on *Deverra scoparia*, 25, v, 94, holding on to the extreme tips of the stems by the mandibles only, with wings folded longitudinally and widely spread, the legs tucked up close to the body not touching the stems, which waved about in the breeze."

♂ ♀. Biskra ; same locality on *Zizyphus lotus*, 21 and 29, iv, 95.

♂ 2, ♀ 5. Biskra, on *Atractylis serratuloides* and *Antirrhinum ramosissimum*, 6-13, iv, 97.

♂ 2. Biskra, on *Amberboa lippii*, 8, iv, 97.

Several of the above specimens are stylopized (*Xenos?*).

PTEROCHILUS ATERRIMUS, n. sp.

Ater, atrohirtus, punctatus, mandibulis, capite utrinque pone oculos, et in femina interdum clypeo et oculorum orbitis interioribus, tibiis anterioribus antice, articuloque apicali palporum labii, rufonatis; alis valde infumatis.

Black, densely clothed with long black hairs, especially in the ♂, mandibles more or less red, generally nearly entirely so, but in one ♀ with only the extreme apices of that colour, a spot of variable size behind each eye, and in one female two large spots on the clypeus and the inner orbits of the eyes red. Anterior tibiæ in front in both sexes and the much curved, flattened apical joints of the labial palpi of the same colour, wings dark brown with purple reflections. Head and thorax rugosely punctured, somewhat shining, anterior margin of the clypeus narrowly emarginate in the ♂ semicircularly rounded and entire in the ♀; apical joint of labial palpi in the ♀ flat and dilated, fringed with very long hairs, in the ♂ sub-cylindrical with hairs as long as those of the ♀, but finer and less regular. Antennæ in the ♂ slightly rolled at the apex. Penultimate and apical joints very small, especially the latter, posterior wings clearer than the anterior; legs shining, punctured, the inner sides of the first and third pairs of tibiæ densely clothed with fine pubescence in both sexes; propodeum with an angular tooth on each side; abdomen nigro cyaneous, largely punctured on its basal segment which bears a slightly raised tubercle in the centre of its basal brow, finely punctured on the rest, first and second segments in the ♂ first only in the ♀ clothed with long hairs, apical margins of the ventral segments with a row of exceedingly short bristles.

Long. 14-16 mm.

Biskra, ♀ 1, amongst hummocks of *Limoniastrum guyonianum* on the Dunes by the route des Zibans, 19, iii, 94.

♀ 1, visiting *Brassica napus*, 3, iii, 97.

♂ 1, between Biskra and Hamman-es-Salahin.

♂ 3, at rest on dead twigs of *Damia cordata* at 5 p.m., holding on by the mandibles and legs; wings divergent, 14, ii, 97.

## PTEROCHILUS GRANDIS, Lep.

♀ Médéa, about a mile along the road to Lodi 12.30 to 2.30 p.m., on *Eryngium triquetrum*, 28, vi, 93. (A. E. E.)

♀ 1, hill north of railway station, alt. 3,000 feet, 10, vii, 93. (A. E. E.)

♀ 1, ravines, near Mount Ben Omar, on *Eryngium triquetrum*, alt. 2,730-3,130 ft., 11, vii, 93. (A. E. E.)

♀ 1, on Koudia Sma, a hill to the east, of an altitude of about 2,700 ft., about 4 p.m., 15, vii, 93. (A. E. E.)

## PTEROCHILUS COCCINEUS, André.

♀ 1. Fontaine Chaude, near Biskra, on the dunes near the stream among *Limoniastrum guyonianum*, 3 to 5 p.m., 16, v, 94.

## PTEROCHILUS LINGUARIUS, n. sp.

Niger albo et ferrugineo variegatus, lingua longissima ad apicem abdominis extensa, abdominis segmento primo cupuliformi apice elevato, [secundo margine posteriore membranaceo, ad basin seriatim punctato-impresso.

Black with white and ferruginous markings. Head black, shining and strongly punctured, mandibles, scape of the antennæ and the flagellum beneath, testaceous, the latter darker on its upper-side; Clypeus in the male flavous, in the ♀ sometimes with a testaceous spot, semicircularly emarginate in the ♂, in the ♀ with its free sides reflexed, face densely clothed with silvery hairs in the ♂, sparsely so in the ♀. Tongue very long reaching in repose to the apex of the abdomen, labial palpi slightly flattened and plumose in the ♀, nearly simple in the ♂: behind the eye in both sexes is a very small whitish spot, antennæ in the ♂ with a sharp reflexed apical joint thorax black, shining, rather remotely punctured pronotum except at its extreme basal angles, tegulæ, a spot on the mesopleura, scutellum except a triangular patch at its base and post-scutellum, ivory white; prothorax truncate in front, its angles nearly rectangular, legs testaceous, the femora darker at the extreme base, propodeum clothed with silvery white hairs, excavated posteriorly and with a long sharp spine at each side of its extreme apex especially in the ♂; on each side there is a testaceous spot of variable size; abdomen sparsely clothed with silvery hairs, largely and remotely punctured especially on the basal segment which is campanulate in form, its apical margin raised and rounded, entirely testaceous or with its base more or less suffused with black, the raised apical ring ivory white, 2nd segment black with its apical margin flavous the colour spreading at the sides

and sometimes produced on to the disc in the form of two spots, the sides of the segment are generally more or less brown, the apical margin of this segment is produced into a rather wide membrane bearing a row of punctures at the base especially noticeable in the ♂, the following segments are black or piceous with pale apical bands, apical segment black.

Long. 7-8. mm.

♂ 1. Fontaine Chaude, near Biskra, on the dunes near the stream, 9, v, 94. (*A. E. E.*)

♂ 1, ♀ 2. Biskra, Hamman-es-Salahin, on the sandhills, 5, v, 97. (*A. E. E.*)

♀ 3. Biskra, 20 and 31, v, 98. (*F. D. M.*)

A small species superficially like a small *Chevricranus* but easily distinguished by its extremely long tongue, a character which almost warrants the erection of a new genus for its reception.

#### PTEROCHILUS AFFINIS, n. sp.

Niger flavopictus, clypeo maris emarginato, feminae punctato, sine rugis longitudinalibus, apice truncato, alis subluteis, segmentis ventralibus maris 3-5 dense aureofimbriatis, segmenti secundi feminae disco valde sed sparse punctato.

Black with the following parts yellow, mandibles except their piceous teeth and apices, the entire clypeus in the ♂, the base only in ♀, a spot between the antennae and a spot behind each eye and another in the sinus of each in both sexes, and the scape of the antennae in the ♂ a somewhat triangular spot on each side of the prothorax not reaching either the anterior or posterior angle a spot below the wing, the tegulae, two spots on the scutellum, the post-scutellum and two small spots on the propodeum, the borders of the abdominal segments more or less trisinuately except that of the basal which is straight, and the apical, which has a central spot only; beneath with a bisinuate band on the second and following segments, except the apical; all the above markings are the same in both sexes; legs testaceous-yellow, coxae, trochanters and bases of the femora black. Head and thorax dull, closely punctured, clothed with long hairs, brownish-red in the ♂, nearly black in the ♀. Clypeus semi-circularly emarginate in the ♂, narrowly truncate in the ♀, spot between the antennae in the ♂ slightly raised, wings slightly brownish especially along the costa, the nervures testaceous-red. 2nd submarginal cell, receiving both recurrent nervures; posterior tarsi with their 2nd and claw-joints

subequal in length, the 4th joint about two-thirds as long as the third. Abdomen somewhat shining, very densely and microscopically punctured, the basal segment sparsely clothed with rather long brownish hairs, 3rd, 4th and 5th ventral segments in the ♂ with a dense fringe of short golden hairs.

Long. 13-14 mm.

Bône, ♂ 1. 28, iv, 96. (*A. E. E.*)

Alger, ♀ 1. 29, iv, 98. (*F. D. M.*)

Apparently closely allied to *hellenicus* of Morawitz, but the ♀ differs in having the clypeus destitute of longitudinal rugosities, in having a central spot between the antennæ instead of two side by side, and in having the second segment of the abdomen beneath, with larger punctures scattered on the disk and without the larger punctures on the apical margin. The ♂ of *hellenicus* is not described. The head and thorax are also clothed with longer hairs than in *hellenicus*.

ODYNERUS (*Hoplopus*) LUTEOLUS, Lep.

♂ 2. Médéa, ravines near Mount Ben Omar, alt. 2,730-3,130 feet, 8 to 10 a.m., on *Eryngium triquetrum*, 11, vii, 93. (*A. E. E.*)

♂ 1. Constantine, 16, vi, 98. (*F. D. M.*)

ODYNERUS (*Hoplopus*) SPIRICORNIS, Spin.

♀ 1. Constantine, on M'cid, 21, vi, 94. (*A. E. E.*)

♀ 2. " " " 2, vi, 95. (*A. E. E.*)

ODYNERUS (*Hoplopus*) CONSOBRINUS, Duf.

♂ 2. Algiers, 14 and 17, ii, 93. (*A. E. E.*)

♂ 1. Biskra, about walls of "adobe," village Negre, 13, ii, 94. (*A. E. E.*)

♂ 1. Biskra, visiting *Moricandia arvensis*, 3, ii, 97. (*A. E. E.*)

♀ 1. Biskra, 15, ii, 94. (*A. E. E.*)

♀ 1. Bône, host of *Phileremus oranienensis*, 2, iii, 96. (*A. E. E.*)

♂ 3, ♀ 9. Algiers, March 1898. (*F. D. M.*)

ODYNERUS (*Hoplopus*) CAROLI, Mor.

♂ 2. Bône, footpath and river-bank by the Bon Djemma, 24, iii, 96. (*A. E. E.*)



♂ 1., Alger, 27, iv, 98. (*F. D. M.*)

(?) ♀ 1. Constantine, on M'cid, 22, v, 95. (*A. E. E.*)

(?) ♀ 1. Alger, 27, iv, 98. (*F. D. M.*)

The ♂ of this species is known at once by the spine at the base of the anterior femora (beneath). The ♀ which I have assigned to it agrees with it in size and general coloration, and has the post-scutellum rather sharply elevated as in the ♂. It lacks the long hairs of *conso-brinus* and *rotundigaster*, but has the yellow band of the second abdominal segment dilated at the sides as in those species, although more distinctly so. The scutellum and post-scutellum are entirely black.

ODYNERUS (*Hoplopus*) DECEPTOR, n. sp.

*O. variegato* simillimus, ab illo mas coxis intermediis nigro spinosis facile distinguitur, femina, angulis propodei subproductis, segmento secundo abdominis latiori subtus testaceo, minus crebre sed obsoletius punctato aegre distinguenda.

Resembling *O. variegatus* in colour but at once recognizable by the black spines on the intermediate coxæ of the ♂ and the very largely laterally produced bands of the abdomen which on the 1st and 2nd abdominal segments leave only the central basal portion black. In the ♀ (?) of this species the lateral angles of the propodeum although not acute are more produced than in *variegatus*, the 2nd abdominal segment is wider in proportion to the 1st and on its under-side is testaceous, more shining than in *variegatus* less closely and more obsoletely punctured, but only having one example of this ♀ I am unable to say how far these characters are constant.

♂. Head and thorax black, closely punctured, dull, clothed rather sparingly with greyish-brown hairs, clypeus yellow, shining, deeply and semicircularly incised at the apex, labrum yellow, mandibles black, spotted with yellow at the base, a somewhat straight yellow spine projects from the gena on each side of their extreme base; this spine is slightly curved towards the apex and viewed laterally appears nearly truncate, a transverse tubercle between the antennæ and the scape in front testaceous, spire entirely black, pronotum with a ferruginous band not extending to its posterior angles, anterior angles slightly produced and sharp, tegulæ ferruginous, wings smoky, especially along the costal margin, scutellum slightly raised, post-scutellum nearly perpendicular, ferruginous, slightly concave and very shining, sides of the propodeum obtusely angled, its concavity dull, diagonally striate, widely channelled, with a narrow longitudinal carina running along the bottom of the channel—legs

testaceous femora black at the base, intermediate coxæ each bearing a black, slender, nearly straight spine. Abdomen slightly shining very finely rugulose with the first segment clothed with hairs as the thorax, the rest glabrous, all the segments bearing broad bisinuate apical testaceous bands, the bands of the 1st and 2nd segments so produced at the sides towards the base, as to leave a square black central emargination, segments beneath very finely and closely punctured, 2nd with a free testaceous spot on each side in some specimens, often wanting.

♀ (?) The female which I associate with the ♂ has exactly similar bands on the abdomen, and is very similar otherwise, with the exception that the scutellum is ferruginous except at its extreme base and that the sides of the propodeum have the angles rather produced but obtuse and widely yellow and the 2nd segment of the abdomen beneath is nearly entirely ferruginous, shining, and rather obsoletely punctured, there is also a testaceous line on the lower internal orbit of the eye and a large spot behind nearly on the vertex scarcely indicated in the ♂ and a spot on the mesopleura under the wing.

Long. 10–12 mm.

♂ 4. Bône, 20, iv, 96. (*A. E. E.*)

♂ 3. „ foot-path and river bank by the Bon  
Djemma, 24, iii, 96. (*A. E. E.*)

♀ 1. Médéa, hill north of railway along the edge of the  
enclosure on the west side, on *Eryngium*  
*triquetrum*, 27, vi, 93. (*A. E. E.*)

ODYNERUS (*Hoplopus*) VARIEGATUS, Fab.

♀ 4. Constantine, 15, 16, vi, 98. (*F. D. M.*)

ODYNERUS (*Hoplopus*) ANGUSTIOR, n. sp.

Angustus, parce griseo-hirsutus niger, scapo antennarum antice flavo, flagello toto nigro, clypeo, tuberculo transverso inter antennis, prothoraceque antice flavis, scutello nigro, immaculato, post-scutello flavo, plano, sub-lævi, basi solo punctato, abdominis segmentis apicibus late flavo-fasciatis, subtus segmento secundo crebre et minute punctato, punctis majoribus intermixtis.

♂. Black, clypens, labrum, a line along the anterior lower orbit of the eye and a spot behind the eye yellow, antennæ with the scape in front yellow, otherwise entirely black. Thorax with the anterior margin of the pronotum, the colour widened at the sides but not produced to the posterior angles, the tegulæ and post-scutellum testaceous, abdomen with a wide, angularly emarginate band on the basal

segment, a wide nearly straight band on the 2nd and a very slightly bi-sinuate band on the 3rd to 6th testaceous. These bands are all continuous on the ventral segments. Legs testaceous yellow, base of the anterior femora above, about three-fifths of the intermediate femora above, and the posterior femora, except at the apex, black.

Head and thorax closely and rugosely punctured, clothed with short greyish white hairs, clypeus deeply and semicircularly emarginate, pronotum rather produced at the sides and sharply angulated, post-scutellum shining, propodeum very declivous, its sides rounded, not much excavated posteriorly, the sides of the excavation irregularly and diagonally striate, wings nearly hyaline, but smoky along the costal margins, nerves and stigma dark brown, abdomen coarsely and irregularly punctured on the basal segment, finely but irregularly on the second, finely closely and regularly on the rest, beneath closely and finely punctured throughout, and with a larger (but still rather fine) puncturation scattered over the surface—observable chiefly on the 2nd and 3rd segments—legs simple.

Long. 9 mm.

A slenderer species than usual but bearing no very marked characters, its entirely black flagellum combined with the wide abdominal bands separate it from any other species I can find described.

♂ 1. Biskra, 21, iii, 95. (*A. E. E.*)

♂ 1. „ 23, iii, 97 on *Tamarix*. (*A. E. E.*)

♂ 1. Bône, 1, v, 96. (*A. E. E.*)

ODYNERUS (*Ancistrocerus*) ATROPOS, Lep.

♂ 2. Biskra, sandy banks bordering the fallow near the market garden by the river and railway near kilomètre 199, 17, iii, 94.

♂ 4, ♀ 4. Biskra, near the Barrage, 22, iii-iv, 97.

“Makes a curved tubular portico to its burrow with irregular elongate longitudinal loopholes; tube 18 mm. long and 3.5 mm. external diameter.”

In one ♀ there are 6 submarginal cells in the right wing and 4 in the left, all the other specimens have the normal 3. A character observable in the ♀ which does not appear to have been noticed in descriptions is that the clypeus is practically 3-dentate—as there is a very small tooth in the centre of the emargination.

ODYNERUS (*Ancistrocerus*) PARIETUM, Linn.

Various localities; Biskra; Bône; Algiers; Azazga, alt. 1,900 ft. (*A. E. E.* and *F. D. M.*)

ODYNERUS (*Lionotus*) CHLOROTICUS, Spin.

♀ 2. Biskra, 31, v, 98. (*F. D. M.*)

ODYNERUS (*Lionotus*) EGREGIUS, H. Sff.

♀ 1. Biskra, 22, iv, 97. (*A. E. E.*)

♀ 1. „ 6, v, 98. (*F. D. M.*)

♀ 1. Médéa, 28, vi, 93. (*A. E. E.*)

ODYNERUS (*Lionotus*) SAUSSUREI, André.

♂ 1, ♀ 2. Biskra, on *Ammi visnaga*, 18-22, vi, 97.

ODYNERUS (*Lionotus*) DANTICI, Rossi.

♂ 2. Biskra, on *Ammi visnaga*, 18, v, 93. (*A. E. E.*)

♀ 1. Tizi-Ouzou, on *Zizyphus lotus*, 14, vi, 93. (*A. E. E.*)

♀ 2. Constantine, on *Ferula scabra*, 22, v, and 2, vi, 95. (*A. E. E.*)

♂ 1. Biskra, on *Zizyphus lotus*, 15, v, 97. (*A. E. E.*)

♀ 1. Bône, 25, vii, 97. (*A. E. E.*)

♂ 2, ♀ 6. Biskra, 13, v-10, vi, 98. (*F. D. M.*)

♀ 1. Philippeville, 20, vi, 98. (*F. D. M.*)

ODYNERUS (*Lionotus*) BIDENTATUS, Lep.

♂ 1. Biskra, railway, near kilomètre 199, 31, iii, 94. (*A. E. E.*)

♀ 1. „ Fontaine Chaude, on *Tamarix pauciovulata*, 19, iv, 94. J. Gay MS. (*A. E. E.*)

♀ 1. „ ridge of hills north-east of Hamman-es-Salahin, visits *Ferula vsceritensis*, 5, iv, 95. (*A. E. E.*)

♂ 2. „ visiting *Antirrhinum ramosissimum*, 21, iii, 97. (*A. E. E.*)

♀ 1. „ on *Moricandia arvensis*, 12, iv, 97 (*A. E. E.*)

ODYNERUS (*Lionotus*) SPECULARIS, n. sp.

O. bidentato colore assimilis minus hirsutus, post-scutello arcte elevato, crista media subdentata, postice perpendiculari, nitidissimo, propodeo linea dorsali ad basin explanata nitidissima, lateribus utrinque bi-angulatis, squamis magnis subquadratis.

Group of *dantici* and allied to *bidentatus*, Lep.

♂. Black, clothed with short grey hairs, those on the head and front of the thorax rather longer. Head and thorax rugosely punctured, clypeus and labrum flavous, punctured, the former deeply and semi-circularly emarginate, clothed with silvery pubescence, mandibles testaceous, brown at the apex, a spot between the antennæ, the lower anterior orbits of the eyes, a spot behind each eye, and the first two antennal joints flavo-ferrugineous, apical joints of the antennæ including the recurved hook testaceous, at least beneath; pronotum, except its posterior angles, the tegulæ, two transverse spots along the apex of the scutellum, and a spot on each side of the propodeum along the lateral margin yellow, anterior margin of the pronotum very slightly produced in the centre, its angles slightly prominent and rectangular, tegulæ punctured, wings including nerves anteriorly and on the apical half, suffused with brown colour becoming yellower towards the base, post-scutellum sharply elevated with a shining semi-circular area on its perpendicular posterior side, scarcely crenulate, but with a slight central tooth, propodeum angulated at the sides with a strong emargination beneath the larger angle, depression rugosely punctured, but with a very bright shining sub-triangular central space meeting the shining area of the post-scutellum, apical scales very large and subquadrate; abdomen thinly clothed with fine grey pubescence, giving it a greyish look in some lights, rugosely punctured, all the segments with broad yellow trisinate apical bands, that on the first segment very wide, only leaving a sub-triangular black spot at the base; beneath shining, strongly punctured, with a band on the second and third segments only, basal crenatures of the second segment long and well developed, legs yellow, coxæ and trochanters black, all the former spotted with yellow in front.

Long. 13-14 mm.

- ♂ 1. Biskra, to the north of railway, kilomètre 199,  
4.30-6 p.m., on *Teucrium polium*, 28, v,  
94. (A. E. E.)  
♂ 1. „ on *Echinops spinosus*. (A. E. E.)

I have described the bands, etc., of this species as yellow, as they are evidently discoloured in both my examples.

ODYNERUS (*Lionotus*) BLANCHARDIANUS, Sauss.

- ♂ 1. Le Tarf, 27, vi, 96. (*A. E. E.*)  
 ♂ 2. Biskra, on *Ammi visnaga*, 15, 17, v, 97. (*A. E. E.*)  
 ♂ 1. Bône, on *Euphorbia paralias*, 7, viii, 97. (*A. E. E.*)  
 ♂ 1. „ „ *Mentha rotundifolia*, 10, viii, 97. (*A. E. E.*)

ODYNERUS (*Lionotus*) sp. (?)

- ♀ 1. Biskra, on *Tamarix*, 28, iv, 97. (*A. E. E.*)

ODYNERUS (*Lionotus*) sp. (?)

- ♀ 1. Bône, 10, vi, 96. (*A. E. E.*)

ODYNERUS (*Lionotus*) TRIPUNCTATUS, Fab.

- ♀ 1. Biskra, 23, i, 97. (*A. E. E.*)  
 ♀ 1. Biskra, on *Ammi visnaga*, 24, v, 97. (*A. E. E.*)

ODYNERUS (*Lionotus*) REGULUS, Sauss.

- ♂ 3. Bône, on *Euphorbia paralias*, 7 and 23, viii, 97.  
 (*A. E. E.*)  
 ♂ 1. „ „ *Rubus discolor*, 13, viii, 97. (*A. E. E.*)  
 ♂ 1. „ „ *Mentha rotundifolia*, 10, viii, 97. (*A. E. E.*)  
 ♀ 1. „ „ *Juncus acutus*, 25, viii, 97. (*A. E. E.*)  
 ♂ 1. La Calle, 4, viii, 96. (*A. E. E.*)  
 ♂ 1. Biskra, 7, iv, 97. (*A. E. E.*)

ODYNERUS (*Lionotus*) EATONI, n. sp.

Citrinus, glaber, fortiter punctatus, capitis vertice, mesonoto, sternis, et propodei postice macula centrali nigris; abdominis segmentis primo et secundo nigro maculatis, tegulis magnis, valde punctatis.

Bright citron yellow, glabrous, very largely punctured, head in both sexes with only the vertex black, clypeus narrowly emarginate and bidentate, antennæ sometimes darker towards the apex, apical recurved joint in the ♂ very small; thorax with the mesonotum, except a quadrate spot in front of the scutellum, and the sterna black, propodeum black with its sides yellow, tegulæ large very strongly and closely punctured, wings very slightly dusky rather more so along the costal margin, nervures brown, post-scutellum slightly raised and crenulated, sides of the propodeum rounded and crenulated, apical scale produced above into a long sharp

spine; abdomen closely but not quite so coarsely punctured as the head and thorax, posterior margin of the 1st segment very slightly and of the 2nd very distinctly raised, a spot on the apical margin of the first segment, a transverse spot on the disk of the 2nd towards the apex black, apical segments sometimes more or less infusate; beneath with the 2nd segment convex, its basal costæ rather long but not very strongly developed, legs with the coxæ at the base black.

Long. 8 mm.

A very distinct species by the strongly punctured tegulæ, the peculiar coloration, somewhat resembling *chloroticus*, and the long spines of the apical scales of the propodeum.

♂ 1, ♀ 4. Biskra, cornlands bordering the route des Zibans, on *Ammi visnaga*, 10.30 a.m. and 1-3 p.m., 18 and 24, v, 93. (*A. E. E.*)

♂ 2. Biskra, outskirts of the oasis, 17 and 19, v, 97. (*A. E. E.*)

♂ 1, ♀ 5. Biskra, 5, v-9, vi, 98. (*F. D. M.*)

ODYNERUS (*Lionotus*) DOURSII, Sauss.

♂ 1. Constantine, visiting *Marubium vulgare*, 29, v, 95. (*A. E. E.*)

ODYNERUS (*Lionotus*) PONTEBÆ, Sauss.

♂ 1. Médéa, 28, vi, 93. (*A. E. E.*)

♂ 1. Constantine, 18, vi, 98. (*F. D. M.*)

ODYNERUS (*Lionotus*) PARVULUS, Lep.

Numerous specimens of both sexes from Biskra, Le Tarf, Hippone, Bône, frequently on *Ammi visnaga*, iv-viii. (*A. E. E.* and *F. D. M.*)

ODYNERUS (*Lionotus*) BISPINOSUS, Lep.

♀ 2. Biskra, 28, v, 3, vi, 93. (*A. E. E.*)

♂ 1. Algiers, 13, iv, 98. (*F. D. M.*)

♀ 1. Constantine, 17, vi, 98. (*F. D. M.*)

♀ 1. Biskra, 24, v, 98. (*F. D. M.*)

ODYNERUS (*Lionotus*) HANNIBAL, Sauss.

- ♂ 1. Constantine, entering a snail shell "on business," 16, v, 95. (*A. E. E.*)  
 ♂ 2, ♀ 1. Biskra, visiting flowers of *Tamarix brachystylis*, 4 and 8, iv, 95. (*A. E. E.*)  
 ♂ 4, ♀ 4. " visiting flowers of *Tamarix brachystylis*, 29, iii, 18, iv, 97. (*A. E. E.*)  
 ♀ 1. " 19, v, 98. (*F. D. M.*)  
 ♀ 1. Constantine, 18, vi, 98. (*F. D. M.*)

ODYNERUS (*Lionotus*) ALPESTRIS, Sauss.

- ♀ 1. Biskra, Fontaine Chaude, 4, iv, 94. (*A. E. E.*)  
 ♀ 1. " visiting *Moricandia arvensis*, 25, iii, 95. (*A. E. E.*)  
 ♀ 3. " visiting *Antirrhinum ramosissimum*, 1 and 21, iii, 97. (*A. E. E.*)  
 ♀ 1. Bône, visiting *Euphorbia paralias*, 23, viii, 97. (*A. E. E.*)

ODYNERUS (*Lionotus*) FLORICOLA, Sauss.

- ♀ 2. Bône. 6, viii, 96, and 29, vii, 97. (*A. E. E.*)  
 ♂ ♀. Algiers. 22 and 30, iv, 98. (*F. D. M.*)  
 ♂ 1. Le Tarf. 26, vii, 96. (*A. E. E.*)

ODYNERUS (*Lionotus*), sp. (?)

- ♂ 1. Biskra and Oued Biskra, above the Barrage, amongst *Tamarix* scrub, 4, iv, 97. (*A. E. E.*)

This male is peculiar in having the claw joints of the intermediate and posterior tarsi black.

ODYNERUS (*Lionotus*), sp. (?)

- ♀ 2. Biskra, a little above the Barrage, amongst *Tamarix*, 30, iv, 97. (*A. E. E.*)  
 ♀ 1. " between the railway and the scrub bordering the pasture, 10, v, 97. (*A. E. E.*)

This may prove to be the ♀ of the preceding, but the tarsi are entirely pale, and both my specimens are much discoloured; they are very closely allied to *floricola*, but the post-scutellum is slightly raised and the mesopleuræ are not carinated under the yellow spot as in that species.



ODYNERUS (*Lionotus*), sp. (?)

♀ 1. Constantine, on *Inula viscosa*, 9, x, 93. (*A. E. E.*)

♀ 1. Philippeville, 20, vi, 98. (*F. D. M.*)

Apparently only differing from the preceding by having the pronotal emargination narrower.

These three species are so closely allied that I do not feel that it would be safe on the material before me to describe them as new.

ODYNERUS (*Microdynerus*) PEDUNCULATUS, n. sp.

Niger, flavo rufoque ornatus; segmento primo abdominali maris petiolato (Eumeniformi), fœminæ formâ consueta, in utroque sexu plus minus rufotestaceo, apice flavo fasciato, segmento secundo nigro fascia apicali pallida, ipso apice membranaceo, punctorum serie impressa.

Black, head and thorax shining, strongly punctured, face entirely clothed with silvery hairs in the ♂; mandibles piceous in the ♂, fulvo-testaceous in the ♀, clypeus white in the ♂ except at the apex. Scape of the antennæ in front white in the ♂, fulvo-testaceous in the ♀, recurved apical joint in the ♂ testaceous, terminating in a black knob, reaching to the base of the 11th joint, which is testaceous beneath, the very short 12th joint being entirely of that colour. Anterior margin of the pronotum truncate, with an entire narrow pale band in the ♂, two spots in the ♀, angles nearly right angles, sides of the pronotum nearly parallel, very long in the ♀; tegulæ whitish in the ♂, fulvo-testaceous in the ♀, wings slightly smoky, darker along the costa and in the radial cell, scutellum nearly square in the ♀ and fulvo-testaceous at the apex, transverse in the ♂, with two apical pale spots, post-scutellum black in the ♂, concolorous with the scutellum in the ♀, propodeum black with a strong central impression, its sides clothed with silvery hairs, the impression shining in the ♀, sides of the propodeum gradually converging towards the apex in the male and terminating in two rather long pale spines which somewhat embrace the petiole of the body, sides much more rounded in the ♀, the spines short, and further apart not conspicuously pale, but piceous in colour, propodeal scales small, not spinose; abdomen slightly shining, punctured and clothed with greyish, very fine pubescence, with the basal segment fulvo-testaceous in both sexes, very narrow and petiolate in the ♂, of ordinary form in the ♀, the extreme apex with a pale whitish band, in the ♂ the base of the segment is black, and the apical margin is raised, callose,

and densely fringed posteriorly with very short fine white hairs, second segment with a pale apical band beyond which is a membranous appendix, which in the ♂ bears a row of elongate punctures; beneath with the second segment more shining than the rest and strongly punctured, with the apex pale as on the upper-side. Legs fulvo-testaceous, paler in the ♂, extreme base of the femora piceous.

Long. 7-8 mm.

♀ 1. Biskra, near railway, kilomètre 199, in the scrub between the fringe of reeds and the farm mule-track, 22, iv, 97. (*A. E. E.*)

♂ 1, ♀ 1. The same place, 25, iv, 97. (*A. E. E.*)

The ♂ and ♀ are so different in form that I feel great diffidence in uniting them, at the same time their colours are so similar and the locality identical that I hope I have done right; the ♀ is of the ordinary form of a *Microdynerus*, but the ♂ more resembles those species of the *minutus* group, with constricted petioles, *cruentatus*, *eatonii*, etc., but is much more elongate.

#### POLISTES.

Of this widely-distributed genus, numerous specimens have been brought home by Messrs. Eaton and Morice, all of which belong to the gallica group—but the majority are females which in the present state of our knowledge cannot be referred for certainty to their respective males. Dr. F. F. Kohl (*Ann. d. K. K. Naturhist. Hofmuseums, Wien, Band xiii, 1898, p. 87, taf. iii*) describes and figures the males of five species of this group, which appear to be easily distinguishable, and of these Mr. Eaton has brought home two.

♀♀ are recorded from Biskra, Bône, Médéa, and Mustapha Supérieur. (*A. E. E.* and *F. D. M.*)

#### POLISTES DUBIA, Kohl.

♂ 2. Biskra, in the grounds of Château Landon, and in the fields between that and The Negro Village, on *Ammi visnaga*, 24, v, 93; "eyes" in life "subolivaceous." (*A. E. E.*)

#### POLISTES FŒDERATA, Kohl.

♂ 1. Bône, near the Plage, 28, xi, 93. (*A. E. E.*)

VESPA GERMANICA, F.

- ♂ 1. Constantine, 12, xi, 94.
- ♀ 1. Mustapha Supérieur, 25, ii, 93.
- ♀ 1. Colonne Voirol, 4, v, 93.
- ♀ 1. Médéa, 1, vii, 93.

This is the only species of *Vespa* sent home.